CLAIMS

We Claim:

1. A method comprising the following:

capturing an image using a color filter array;

detecting a plurality of color components of light incident upon a color sensor;

generating an average intensity value for each of the plurality of color components; and,

using the average intensity values for the plurality of color components to calculate a white balance for the image captured by the color filter array.

2. A method as in claim 1:

wherein each of the plurality of color components is an analog value; and,

wherein each of the average intensity values is a digital value.

3. A method as in claim 1 wherein the method is performed by a digital camera.

4. A method as in claim 1 wherein the plurality of color components include a red component, a green component and a blue component.

5. A method as in claim 1:

wherein the plurality of color components include a red component, a green component and a blue component; and,

wherein the average intensity values include an average red intensity value derived from the red component, an average green intensity value derived from the green component and an average blue intensity value derived from the blue component.

6. A method as in claim 5:

wherein the red component, the green component and the blue component are analog values; and,

wherein the average red intensity value, the average green intensity value and the average blue intensity value are digital values.

7. A method as in claim 1 wherein capturing the image and detecting the plurality of color components are performed simultaneously allowing for parallel processing.

8. A device that takes an image, comprising:

a color filter array that captures an image;

a color sensor that detects a plurality of color components of incident light;

a converter that generates an average intensity value for each of the plurality of color components; and,

white balance calculator that uses the average intensity values for the plurality of color components to calculate a white balance for the image captured by the color filter array.

9. A device as in claim 8:

wherein each of the plurality of color components is an analog value; and,

wherein each of the average intensity values is a digital value.

10. A device as in claim 8 wherein the device is a digital camera.

11. A device as in claim 8 wherein the plurality of color components include a red component, a green component and a blue component.

12. A device as in claim 8:

wherein the plurality of color components include a red component, a green component and a blue component; and,

wherein the average intensity values include an average red intensity value derived from the red component, an average green intensity value derived from the green component and an average blue intensity value derived from the blue component.

13. A device as in claim 12:

wherein the red component, the green component and the blue component are analog values; and,

wherein the average red intensity value, the average green intensity value and the average blue intensity value are digital values.

14. A device as in claim 8 wherein the color sensor includes, for each color component, a photo sensor with an integrated filter.

15. A device that takes an image, comprising:

color filter array means for capturing an image;

color sensor means for detecting a plurality of color components of incident light;

converter means for generating an average intensity value for each of the plurality of color components; and,

white balance means for using the average intensity values for the plurality of color components to calculate a white balance for the image captured by the color filter array.

16. A device as in claim 15:

wherein each of the plurality of color components is an analog value; and,

wherein each of the average intensity values is a digital value.

17. A device as in claim 15 wherein the device is a digital camera.

18. A device as in claim 15 wherein the plurality of color components include a red component, a green component and a blue component.

19. A device as in claim 15:

wherein the plurality of color components include a red component, a green component and a blue component; and,

wherein the average intensity values include an average red intensity value derived from the red component, an average green intensity value derived from the green component and an average blue intensity value derived from the blue component.

20. A device as in claim 18:

wherein the red component, the green component and the blue component are analog values; and,

wherein the average red intensity value, the average green intensity value and the average blue intensity value are digital values.